



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Site:	Maline Creek
ID #	MOD980631162
Break:	24
Other:	4-5-94

John H

Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

(913) 551-7692
April 5, 1994

Ms. Carol Kather
Chief, Site Investigation Section
Emergency Planning and Response Branch
U. S. Environmental Protection Agency
25 Funston Road
Kansas City, Kansas 66115

Dear Ms. Kather:

Enclosed is a copy of the February 24, 1994 Health Consultation
prepared by the Agency for Toxic Substances and Disease Registry
for the following site:

CERTAIN-TEED, MALINE CREEK SITE
ST. LOUIS, MISSOURI

Should you have any questions, please feel free to contact any of
the Regional staff at (913) 551-7531.

Sincerely yours,

John J. Risher
FOR

Denise Jordan-Izaguirre
Senior Regional Representative
Agency for Toxic Substances and
Disease Registry, Region VII

Enclosure

cc: Max M. Howie, Jr., ATSDR/DHAC/RIMB E56

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Memorandum

Date February 22, 1994

From Environmental Health Scientist
Agency for Toxic Substances and Disease Registry, Region VII

Subject Health Consultation: Certain-Teed Maline Creek Site
St. Louis, Missouri (70KF)

To Denise Jordan-Izaguirre, Senior Regional Representative
Agency for Toxic Substances and Disease Registry, Region VII

Through: Director, DHAC, ATSDR (E-32) *[Signature]*
Chief, ERCB, DHAC (E-57) *[Signature]*
ERCB Consulting Scientist (E-57) *[Signature]*

BACKGROUND AND STATEMENT OF ISSUES

The U.S. Environmental Protection Agency (EPA) - Region VII requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the available data and assess the public health hazard posed by the Certain-Teed Maline Creek site. The EPA also requested ATSDR to comment on the need for immediate corrective actions to protect public health [1].

The Certain-Teed Maline Creek site is comprised of a 7-acre landfill and three unoccupied buildings located at 600 St. Cyr Road in the Bellefontaine section of St. Louis, Missouri. Cement-asbestos water pipe and asbestos sheeting were previously manufactured at the facility. The site is bordered by railroad tracks, Riverview Boulevard, St. Cyr Road, and Maline Creek. The site is only partially chain-link fenced, so access to the site is unrestricted. The western boundary of the site is Maline Creek, which empties into the Mississippi River approximately 0.5 mile to the east. Land use in the immediate vicinity of this site is mixed industrial/residential. The nearest occupied residential area is approximately 150 feet across the creek. The exact population is not known, but the area is well-developed with fully occupied, single, free-standing dwellings. Other residential and commercial areas are located along Maline Creek, downgradient of the site.

In 1979, production wastes from the manufacture of asbestos containing materials (ACM) were buried in a large mound (approximately 1 acre) under an EPA closure plan approved by the Missouri Department of Natural Resources. The landfill is a large, above-ground, earth-covered mound. In May 1982, employees of the Missouri Sewer District noticed broken pipe

and other asbestos debris at the surface of the site. They transported several dump truck loads of the waste material to a local sanitary landfill for disposal [2].

In May and June 1988, EPA's Region VII air monitoring personnel performed site inspections and noticed ACM scrap exposed along the creek bank and in the water. In the Spring of 1992, a local congressional representative's inquiry into the site in response to a concerned citizen's complaint reinitiated federal activity [2]. In October 1992, bulk samples of the ACM scrap were submitted for laboratory analysis. This material contained chrysotile and crocidolite asbestos fibers [3]. Chrysotile (white asbestos) was reported at 8-15 percent and crocidolite (blue asbestos) was reported at 4-5 percent [4].

In June 1993, a site visit was conducted by EPA and ATSDR regional personnel. ATSDR staff noted more extensive damage to the integrity of the landfill than was evident in earlier site visits. Erosion of the landfill near the creek is an ongoing problem and continues to expose more ACM to the environment. Presumably, asbestos fibers are being washed downstream. The rest of the mound was secure and covered with grass and brush.

During the most recent site visit, it was evident that erosion by the creek and precipitation was continuing to damage the integrity of the landfill. It was evident that the creek had cut into the landfill, thereby exposing considerable quantities of buried ACM. There was a ledge projecting 6 to 8 feet from the creek bank where the water had eroded the earth beneath it. This poses a physical hazard since the ledge could fall on someone walking along the creek bank, or it could collapse if children played on it.

The ledge is composed primarily of pieces of asbestos pipe and other discarded ACM remnants and scrap. The ACM has been exposed to the elements, and the alternating thawing and freezing along with wetting and desiccation has deteriorated the ACM, thus, rendering it friable. Asbestos fibers released from the ACM could be carried by the wind to the adjacent residential neighborhood. Recently, the flood waters have reportedly reached into some of the yards of the residential area. However, it is not known if the ACM has migrated via water transport to downstream inhabited areas.

During their site visit, the ATSDR staff saw abandoned toys and small shoe prints in the footpaths along the creek, indicating that children frequent the area. This creek is not used for potable purposes or for recreational fishing in the vicinity of the site.

DISCUSSION

The primary health hazards associated with asbestos are asbestosis and cancer. Asbestosis is a condition in which the asbestiform fibers become lodged in pulmonary tissue, eventually leading to scarring and a loss of respiratory function. Asbestosis usually results from occupational exposures to large quantities of asbestos over extended periods of time; asbestosis does not usually occur in persons exposed to small quantities of asbestos. Thickening of the pleural membrane surrounding the lung (pleural plaque) is sometimes found in people living in areas with high environmental levels of asbestos. The health significance of asbestos-induced pleural abnormalities is not precisely defined [5].

The other health threat - cancer - appears to be a more likely outcome from intermittent exposures to asbestos from this site. The National Toxicology Program, the International Agency for Research on Cancer, and the EPA have designated asbestos as a known human carcinogen [5]. There are two types of cancer associated with asbestos exposure - lung cancer and mesothelioma (cancer of the thin lining around the lung) [5]. The risk of developing lung cancer from exposure to asbestos depends on a number of factors including: (1) the concentration of asbestos fibers in the air; (2) the duration of exposure; (3) time interval since exposure began; and (4) history of cigarette smoking, which has a synergistic effect with asbestos exposure.

Asbestos fiber size is also an important factor in the induction of cancer. The long fibers ($> 1/5000$ inch) are more likely to cause cancers than short fibers ($< 1/10,000$ inch). The latency period for asbestos-induced lung cancer is reported to be 10-40 years [5].

The deteriorated condition of the ACM and the close proximity to a residential area indicates that there is a potential completed exposure pathway between this site and nearby residents, downstream residents, and trespassers. Corrective actions are needed to mitigate the potential public health threat to the local community. Site conditions are continuing

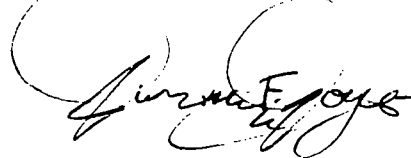
to deteriorate, and the health threat to the local populace is increasing. If complete cleanup of this site is not conducted, then a limited removal action or a temporary reburial of the exposed ACM should be performed.

CONCLUSIONS

1. The landfill cover is eroding, thereby increasing the potential for human exposure to asbestos-containing materials.
2. A ledge formed by creek erosion poses a physical hazard to on-site trespassers.
3. Off-site migration of asbestos may have occurred in the past and may be currently occurring. The extent of off-site contamination has not been determined.

RECOMMENDATIONS

1. Because of the chemical and physical hazards at the site, it is recommended that access to the site be restricted until removal activities are implemented.
2. If removal activities can not be implemented immediately, then corrective actions to stabilize the landfill and mitigate the release of asbestos fibers should be conducted as an interim measure.
3. Sampling and analysis of off-site environmental media should be conducted to determine the extent of the contamination.



Jerome F. Joyce, Ph.D.

REFERENCES

1. Correspondence from Donald Hamera (FIRE/EP&R/ENSV) to Denise Jordan-Izaquirre (ATSDR ORO ,Region VII). Subject: Health Consultation for the Certain-Teed, Maline Creek Asbestos Site, St. Louis, Missouri. August 6, 1993.
2. Memorandum from Joseph M. Parish (E&E TAT) to Paul Doherty (EPA/DPO). Subject: Site Assessment: Certain-Teed Transite Pipe. April 17, 1992.
3. Memorandum from Joseph M. Parish (E&E TAT) to Paul Doherty (EPA/DPO). Subject: Conclusions: Certain-Teed Transite Pipe. May 8, 1992.
4. Memorandum from Paul E. Beatty (AMON/EMCM/ENSV) to Ronald D. McCutcheon (EP&R/ENSV). Subject: Maline Creek/Certain-Teed, St. Louis, Missouri, Transite Pipe and Debris Sampling, 10/29/92. November 8, 1992.
5. Agency for Toxic Substances and Disease Registry. Toxicological profile for asbestos. Atlanta: US Department of Health and Human Services, Public Health Service, 1990.